ers do not suffer from this limitation and gene expression profiling of resected lung cancer also is feasible on a large scale.

In summary the future of lung cancer treatment rests with studies which are based on appropriately selected patient populations. Through this process we hope to learn more about mechanisms of resistance to our established drugs and to uncover new targets on which to base novel therapies.

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Y1-04 **Young Investigators Day, Sat, Sept 1, 08:30 - 16:40**

Clinical trial designs in the era of targeted therapies

Adjei, Alex A.

Roswell Park Cancer Institute, Buffalo, NY, USA

Recent advances in molecular biology have led to the development of a myriad of anticancer agents that specifically target aberrant pathways and other proteins that are relatively specific for tumor cells. These targets can be broadly classified as tumor stroma (blood and lymphatic vessels and other connective tissues), cell cycle regulation, cell signaling and cell death elements. A variety of approaches have been tested, all aimed at target inhibition to date. The most commonly used, and validated currently are pharmacologic interventions using small molecule inhibitors and monoclonal antibodies. As anti-cancer therapeutics with distinct targeting capabilities against malignant cells become available for clinical evaluation, several critical issues in drug development need to be addressed. Because many novel agents are often cytostatic (rather than cytocidal) it is felt that objective response rates by RECIST or WHO criteria may not be the most appropriate endpoint for the development of these agents. However it's unclear as to approaches that should be used. One suggestion is the measurement of tumor size in a dynamic fashion so that different levels of shrinkage can be quantified. This approach is exemplified by the popularity of "waterfall diagrams" as have been used for sorafenib, sunitinib, axitinib and a number of small molecule inhibitors of angiogenic signaling. The utilization of randomized phase II studies with a standard control arm that allows investigators to discern the effects of growth stasis independent of tumor biology has also being suggested as has designs such as the randomized discontinuation design. These approaches and several others will be discussed.

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Y1-05 **Young Investigators Day, Sat, Sept 1, 08:30 - 16:40**

How to get a grant

Crowley, John

Cancer Research And Biostatistics, Seattle, WA, USA

Getting funded for research is crucial to those in academia and important for researchers in most settings. Granting agencies include government institutes, nongovernmental foundations and agencies, industry, even your own institution! Regardless of the granting agency, several principles are crucial (assuming you have a good idea!):

- Follow the instructions!
- Write and rewrite
- Have others read
- Have clear and clearly achievable aims
- Demonstrate credibility with preliminary work
- Demonstrate knowledge of the work of others
- Provide sufficient detail to gain confidence of reviewers
- Try, try again!

Y1-06 **Young Investigators Day, Sat, Sept 1, 08:30 - 16:40**

Early detection of lung cancer: where we are going?

Mulshine, James I.

Rush University, Chicago, IL, USA

Despite concerted efforts, global consumption of cigarettes remains high and will predictably lead to significant adverse health outcomes in subsequent decades. Even in the setting of a heavy smoker, who does stop smoking, their risk of lung cancer never returns to normal. Many lung cancers are now occurring in former smokers and so improving early detection has the potential of adding to the public health benefit of smoking cessation.

Recent reports from research groups in New York, Milan and Japan suggest that outcomes from lung cancer screening can be associated with a high frequency of detecting Stage I lung cancer. These cases are generally found efficiently using defined diagnostic algorithm at baseline and work up efficiency can be further improved in evaluating annual follow up cases. To develop a real public health tool for efficient and effective early lung cancer detection in high risk groups, this tool has to be optimized to allow robust performance in a variety of real world settings. This an important challenge as the resolution and capabilities of imaging tools such as spiral CT has improved rapidly and this quick pace of evolution has consistent impact on the subsequent downstream clinical management

From a public health perspective, the efficiency of case work up should be high with minimal use of invasive testing to minimize the cost and morbidity of lung cancer screening. International cooperation in sharing the results of such researcher is critical to making rapid progress in this promising new area. A number of randomized evaluations of lung cancer screening are ongoing but the results of these trials are not expected for some years. At this meeting, a number of new approaches for managing early lung cancer with innovative surgical approaches will be discussed. As with other cancer screening efforts, there is a need to define the least expensive and morbid management to achieve favorable mortality reduction. This effort to reduce potential "over treatment" is a critical research direction in achieving a more favorable balance of risks and benefits in the application of lung cancer screening strategies.